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Sughrue Mion Zinn Macpeak & Seas  
2100 Pennsylvania NW  
Washington, DC 20037

EXAMINER

MEHON, KRISHNAN S

ART UNIT PAPER NUMBER

1723

DATE MAILED 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/049,422

Examiner

Krishnan S Menon

Applicant(s)

CHTANI, SUMIO

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 7-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by, or 35 USC 103(a) as being unpatentable over, Hopkins et al (US 6,110,368).

Hopkins teaches a microfiltration cartridge comprising a membrane, supports, core, outer cover and end plates (figures), all made of "polysulfones" (col 24 lines 55-65) as in the instant claims. Re the limitation 'wherein at least one melting molding member of at least one of the components is an annealed member' is a process limitation in a product claim. It is described as a process step in the specification (see "However, the filter cartridge formed of the polysulfone based polymer has a problem in that a very small crack is generated on end plates fabricated by heat melting molding such as injection molding or the like", and "...annealing the end plates and removing a residual strain during the heat melting molding" — specification pages 3 and 7).

Components of the filter can be made by a process other than "melting molding". "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hopkins (US 6,110,368).

Hopkins teaches all the elements of claim1 Claim 4 adds the further limitations of the size of the windows in the core and the outer cover. Hopkins teaches the size of the openings in the outer cover in the same range (see Fig 12 and col 15 lines 49-52), and the core as perforated (col 12 lines 10-32), but does not specify the size of the core openings. However, the core openings would depend on the flow rate and the structural strength required and is optimizable. Discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. In re

Boesch and Slaney, 205 USPQ 215 (CCPA 1980); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Aller, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (1955).

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hopkins (US 6,110,368) in view of Salem (US 5,376,278).

Hopkins teaches all the limitations of claim 1. Claim 5 adds the further limitation of very fine concave/convex portions on the microporous film, which Hopkins does not teach. Salem teaches primary and secondary side supports on the membrane which is calendared with the membrane, the calendaring being the process with which the applicant describes as 'forming the concavo-convex' (specification, paragraph connecting pages 14 And 15) structure claimed. It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Salem in the teaching of Hopkins to having postfiltration, drainage and support for the filtration membrane (see col 10 lines 17-33, col 13 lines 28-40).

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hopkins (US 6,110,368) in view of Barnes Jr. et al (US 4,645,602)

Hopkins teaches all the limitations of claim 1. Claim 6 adds the further limitation of membrane bubble point being greater than 0.3 MPa and the supports have <0.15 MPa., which Hopkins does not teach. Barnes teaches the bubble point of the support less than the bubble point of the filtration membrane and the ratio being 1.2 to 6 times, the filtration membrane bubble points being greater than 0.3 MPa (col 13 line 50 – col

14 line 15, examples). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Barnes in the teaching of Hopkins for the filter membrane and the support layers for microporous membrane applications because Hopkins does not specifically teach microporous membranes.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 6 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,511,600 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 6 of the application recites a membrane and a support formed of polysulfone in which the membrane and the support have bubble points  $>0.3$  and  $<0.15$  MPa respectively, and recites at least one melting molding component as an annealed member. Claim 1 of the patent recites the same limitations except it has an added limitation of projections or grooves and does not recite a component as 'melting

molding'. Since 'melting molding' is only a process of forming the component, claim 6 of the application is unpatentable over claim 1 of the patent.

### ***Response to Arguments***

Applicants' assertion that the Ref Ohtani (US 6,011,600) share the same inventive entity is acknowledged. The rejection based on this reference is therefore withdrawn.

Applicant's arguments filed 3/16/04 have been fully considered but they are not persuasive with respect to the Hopkins reference.

In response to the argument that the process of annealing changes the structure, applicants' argument and the specification states that the annealing step is to remove the residual strains caused by the molding process, which would be a process of *removing defects* formed during the molding process. This would not be a true structural change (like, for example, annealing steel which changes its grain microstructure). In any case, the process is not just annealing, but "melting molding". Since the parts could be made using process other than melting molding, the argument is not persuasive.

### ***Conclusion***

This action is made non-final because all the claims were examined on merits in the first action – improper multiple dependency.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Krishnan Menon  
Patent Examiner

  
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